AMSAT SATELLITE REPORT

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Satellite DXpedition Doubted

The news on several satellite DXpeditions announced recently covers the spectrum from bad to good. First the bad. The "possible" satellite operation from Desecheo during the June VHF contest was all but quashed at press time. A combination of factors militated against this long-sought island in the Caribbean becoming another entry on a hungry satellite community's menu. Foremost on the list of factors was the last-minute cancellation by the sole operator with prior OSCAR experience. Of the 18 individuals allowed on the island by the U.S. Department of the Interior, none of the others was qualified to operate OSCAR. Other negative factors included an inordinate truculence towards satellite operations by DXpedition organizer, KP2A and insufficient lead-time to notify all concerned of the anticipated change in AO-8 operating schedule required to accomodate the DXpedition.

Meanwhile, no further word has been received with regard to the VP2A, M, E DXpedition also slated to be on the birds during the VHF contest. As mentioned in *ASR* #8, the key to getting these islands on lay in the area of obtaining a "loaner" 70-cm transceiver for the crew. While no information has been received at AMSAT HQ, it might pay to listen during and shortly after the VHF contest period for these VP2 prefixes.

On the positive side, HC1BI is now on Mode J and activity is picking up from KP4 as well as KL7, the latter with two new stations on from the Klondike. Watch for KP4EKG, KL7JAI and WAØLPK/KL7. For those who need Wyoming for W.A.S. on Mode B, your chance was this past weekend. Plans for a DXpedition to Cheyenne Wyoming by WØVO and KEØT were just about complete at press time. According to the plan, WØVO would be driving from his Colorado QTH to Cheyenne on Thursday and set-up the portable Mode B station that evening. If things went well, they caught an orbit or two Thursday night (12 June) and operated every accessible pass Friday and Saturday while folding the tents after one or two passes Sunday morning. Hope you got WØVO/7 on this occasion. We're told that Lyle, W7KMF, is again active from Wyoming so watch out for him too.

From Europe, we have word that LA7QM and UA1CNA are active, both on Mode A, cw. Thanks to WØCA, K4UAS, K1HTV and W2RS.

Dallas HAM-COM Results

Northern Texas Area Coordinator Doug Loughmiller, KO5I, reports the AMSAT presence at the premier Texas hamfest left a marked impression on those attending June 6-7.

Despite torrential rains that at one point threatened to wash away the event, the entire AMSAT program was a notable success with nearly 100 attending the admirably organized AMSAT Forum. Joined by AO-8 Command station W3HV, Bill Clepper, Doug dispelled any lingering suspicion about AMSAT's viability in the Southwest and provided a stirring audio-visual program for those attending. The Saturday morning demonstration using AO-7B and AO-8J were highly successful under the hand of Russ, WB5RBM, and Larry, WB5MPU, Oklahoma Area Coordinator. Doug reports that booth activity was brisk and the AMSAT "Hams In Space" T-shirts were very well accepted by the Texas crowd. Donations were also received for the continuing callsign badge campaign and over a dozen new members were signed up.

ASR congratulates the entire crew on an especially well-organized activity. Preparation does pay! A special acknowledgement to KO5I for his superb organizing effort and to Gerald Williamson, K5GW, proprietor of Texas Towers, for the loan of an IC-451, IC-251 and KLM antennas which were used in the successful OSCAR demos on Saturday.

Nomination Window Extended

The deadline for submitting nominating petitions for the election of AMSAT Directors has been extended to 30 June 81. According to AMSAT officials, the extension is intended to offset the possible effects of any confusion resulting from an announcement in a prior *ASR*. By extending the deadline for nominations, according to these officials, AMSAT signifies its desire to encourage nominations from the widest cross-section of the membership. *ASR* regrets the poor wording which had led some concerned members to conclude incorrectly that this year the task of nominating would fall to a committee to the exclusion of other nominators' petitions. It is AMSAT policy to seek nominations from as many diverse sources as possible. "This is the key to a healthy organization," remarked W6SP, Chairman of the Board.

Ariane LO3, ALINS

At press time all systems were "go" for a 19 June launch of the third test vehicle (LO3) of the European Space Agency's Ariane booster. (See *ASR* #8, page 1). It appears that the launch window will be 1128 to 1613 UTC according to a National Aeronautics and Space Administration (NASA) spokesman.

AMSAT has announced that the AMSAT Launch Information Network/Service (ALINS) will be activated for the LO3 launch. In recent days the following details have been revealed: ALINS will operate a two-station radio network on hf to service as wide an area as possible given the interest levels in the launch. The ALINS hf network will consist of WA3NAN, the club station at the Goddard Space Flight Center, operating on 14282 kHz, and WA2LQQ operating on a secondary, ad hoc frequency. Depending on the actual time of day of the launch, WA2LQQ will operate on either 21280, 7180 or 3850 kHz, in that order of descending likelihood. While the 15-meter frequency would probably offer the widest coverage with favorable band conditions, if the launch gets off early in the day, 15 meters may be useless. Listen to 14282 first. If you don't hear WA3NAN, then try WA2LQQ on one of the other frequencies listed above. Also, you should listen to the AMSAT Nets and W1AW bulletins for any late-breaking news regarding postponement/rescheduling of the LO3 launch. Consult *QST* for complete listings of bulletin times/frequencies.

W4PUJ To Visit Marburg

Dick Daniels, W4PUJ, will be traveling to West Germany early in July AMSAT HQ has announced. The purpose of Dick's trip will be to consult with AMSAT-DL engineers in furtherance of the design effort required to incorporate the new liquid fuel kick motor into the Phase IIIB spacecraft. As reported earlier on the AMSAT hf nets, the MBB liquid fuel kick motor is now in the possession of AMSAT-DL. And, as reported in *ASR* #5, the liquid kick motor has been allocated to the Phase IIIB spacecraft. The solid fuel kick motor recently donated to AMSAT has been assigned to the Phase IIIC spacecraft. W4PUJ plans to stay in the AMSAT-DL laboratory area at the University of Marburg for approximately a week beginning July 6. Meanwhile, at the AMSAT laboratory at the Goddard Space Flight Center, Greenbelt, Maryland, W3GEY and ZS1FE report that excellent progress is being made on assembling and testing the ground-version IHUs (Integrated Housekeeping Units or computers) built of non-flight qualified "plastic" integrated circuits. These IHUs will be used for testing and simulation as well as for software debugging/qualification.

Oooops!

In *ASR* #8, page 4, "Hearing is Believing" we misspelled W3HV's name. Bill's last name is Clepper. Also, line 14 of the same article should read: "dramatize a point often missed by *in*experienced Mode J." Sorry!

New Net Frequency

According to the Net Control Station JA1ANG, the frequency of the Asia-Pacific AMSAT Net has been changed to avoid some QRM. The new frequency is 14.305 MHz and the time remains unchanged as 1100 UTC Sundays. Either Harry, JA1ANG, or Colin, 9M2CR, the alternate NCS, are on the Net each Sunday to disseminate the latest news to the Eastern Hemisphere. Check-ins from any area are always welcomed and the path from Europe and North America is not a particularly difficult one. Give it a try!

CSVHFS Agenda Announced

An exciting list of topics is on this year's agenda for the 1981 Conference of the Central States VHF Society, planned for July 30-August 1, in Sioux Falls, S.D.

Among the technical sessions will be "Special Techniques for receiving Weak Signals" by KØAG, "Pinpointing Meteor Scatter Peaks", by renowned VHF'er W1JR, and a presentation by WB6NMT of Lunar Electronics on "Receiver Noise Figure, Dynamic Range, and Linearity plus Antenna Stacking Data". Of special interest to AMSAT Members will be the Saturday morning AMSAT Forum, featuring AMSAT President W3IWI.

Information packets may be obtained by contacting Ed Gray, WØSD, at R.R. 2, Salem, SD 57058.

Project OSCAR Calendars

John Pronko, W6XN, Project OSCAR President has announced that requests for the Project OSCAR Orbital Predictions for AO-7/8 should be made now. The team which assembles and distributes the calendars will be taking vacation soon. To obtain your calendar for July, August and September send a S.A.S.E. (#10 with 18¢ postage U.S. or sufficient IRC's for one ounce for non-U.S.) to: Project OSCAR, P.O. Box 1136, Los Altos, CA 94022.

Thermal Design Efforts Continue

Active Florida AMSAT contributor, Dick, WD4FAB, is continuing with thermal design work for the Phase IIIB and C satellites. Dick's employer, Martin Marietta Aerospace of Orlando, was very generous in providing computer time (valued at $5,000 per hour!) on their IBM 370-3300 for work on Phase IIIA. Dick will present a proposal to Martin Marietta management for additional computer time in the near future.

More Net News

The SEASAT (South East Amateur Satellite Net) continues each Sunday at 0800 EST on 7280 kHz. Most of the Florida-area active satellite users check in, along with Area Coordinators from adjoining states. Anyone interested in participating is invited to join in.

AMSAT Satellite Report's Spotlight on: WH6AMX

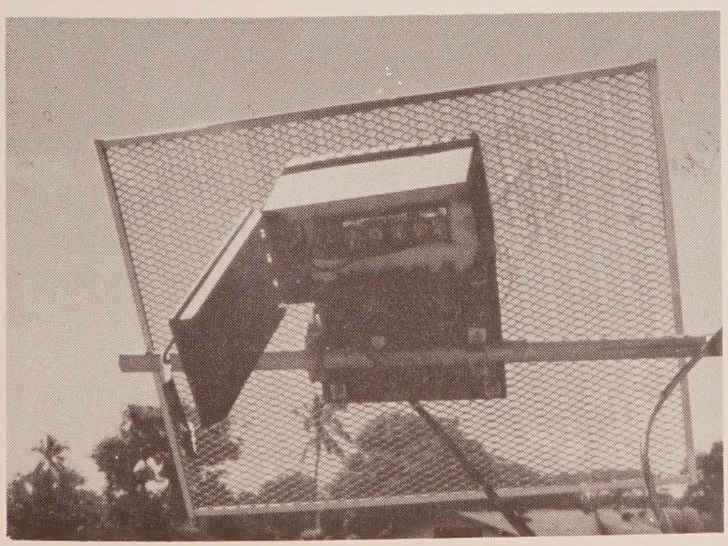
Just as many engines require a spark plug to run and many chemical reactions stand dormant awaiting a suitable catalyst, so it seems also to be true with regard to amateur satellite operations in some areas. So it is fortunate for AMSAT to have a spark plug like Rick Dittmer, WH6AMX, to motivate others and to catalyse their Amateur Radio interests in activity on the satellites.

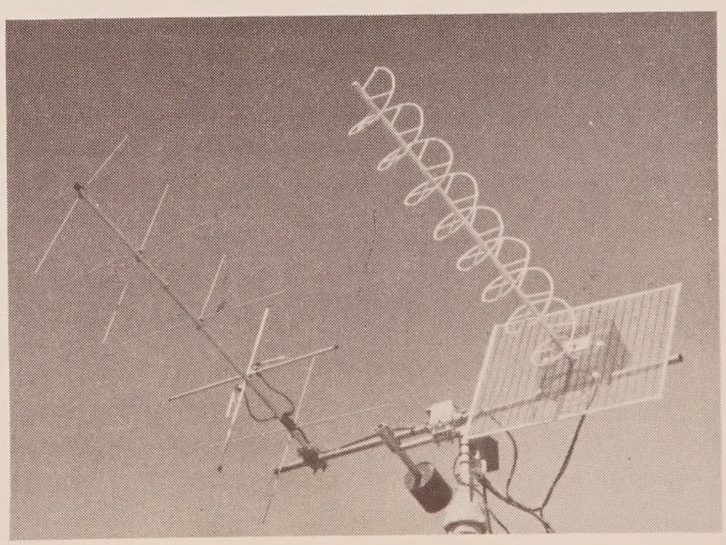
From his seemingly remote vantage in the Hawaiian Islands, Rick is doing precisely that with amateurs on both sides of the vast Pacific. For example, having worked ZL1BDU on AO-7 A and B, other ZLs are now queuing up for the estimated maximum 2 minute window they have from the North Island to Hawaii. Meanwhile, stations to the east are eagerly seeking to tap Rick's enthusiasm by scheduling him on theoretically "impossibly long" paths from the Eastern U.S. Hoping, no doubt, for a little help from some sub-horizon propagation are hopefuls such as Wally, K4UAS, in North Carolina. Rick reports having worked as far east as Ohio but does not rule out being able to hook up with K4UAS, though both concede it's a pretty "iffy" chance. For a zero degree horizon, Rick should be able to work AO-7 as far east as a 115° EQX ascending node orbit. Wally's western-most access is about 112°. Can they stretch it? Chances are with these two crack operators on each end of the path it's just a matter of time.

Though a relative newcomer to OSCAR, Rick's tenacity is evident in his OSCAR activities. He'll keep working at it until he makes his goal. Tenacity is part of his character, apparently. While this native of Quincy, Illinois was stationed with the Air Force on the mainland, he spent tours of up to a week each on alert duty. As an airman on alert, you spend a lot of time studying. And part of Rick's alert-time study went to studying for his license. He mastered the code in a week! Well, enough to garner his first ticket anyway. Now stationed at Hickam AFB in Hawaii, this eight year Air Force veteran moved to the islands with his XYL and two harmonics last year. It's perhaps not surprising that Rick's work for the Air Force is also involved with satellites—the military variety. His parent command is the organization which helps design and procure military satellites (Air Force Systems Command).

Rick says that, for the present, his entire amateur operating activity is confined to the OSCARs and, not insignificantly we note, promoting satellite activity on behalf of mainlanders and islanders alike. The station at WH6AMX shows the impeccable order one might expect of a military officer: neat, organized, entirely proper. A view of the photo Rick kindly provided confirms this. The other photo displays his homebrew 70 cm helix (RHCP) with the converted ammunition case containing his transverter immediately behind the ground screen. On the other end of the boom we see his crossed Yagi which, if you look closely, you'll note is "axially" fed.

Rick is looking forward to Phase IIIB with special anticipation of widening his satellite horizons. With his AO-7/8 enthusiasm as a benchmark, we wonder aloud what Rick can accomplish given the hemispheric-coverage, Phase IIIB bird to work. For now, however, it is certain that the satellite community would be a substantial bit duller without the sparks of WH6AMX. *ASR* salutes this FB OM.





Voyager II Saturn Flyby Commemorative

Voyager II, the interplanetary Spacecraft now approaching Saturn will make its closest approach to the planet on 25 August 1981. In celebration of this event, the Jet Propulsion Laboratory (JPL) Amateur Radio Club station W6VIO will be on the air in a special-event mode from August 15th through August 30th. As with past similar commemoratives, W6VIO will reformat and transmit Slow Scan TV images of Saturn and its rings and satellites as these pictures are received at JPL from the Spacecraft. The SSTV operation will be on 14,235; 21,340; or 28,680 kHz (±5 kHz) as conditions warrant. Other modes and bands will also be used: ssb and cw on 40 through 10 meters, ssb and fm on two meters and fm on 220 MHz. Announcements of other frequencies of operation will be made every 10 minutes or so during the operation. Most of the activity will be conducted each day between 1830 and 2030 hours and also between 2330 and 0330 hours UTC with additional times operated as staffing allows.

An attractive photo QSL card in color will be designed for the event. Amateurs who have in the past made contact with the JPL Amateur Radio Club will recall the QSL's they have received on those occasions. You can expect equally interesting and attractive QSL's this time as well. Self-addressed stamped envelopes sent to W6VIO are required from domestic stations. DX stations may QSL via ARRL.

A-V Program Nears Completion

A truly first-rate Audio-Visual OSCAR presentation is under development by Jim, W4MID, for use in club and convention demonstrations. The program will trace the development of amateur satellites from OSCAR 1 through Phase III using about 100 slides with Jim's professional-caliber narration to depict the progress of the amateur satellite program. The program will be suitable for use in school and convention demonstrations, for local ham club presentations, etc. Clubs or individuals wishing more information should contact Jim Tumilty, W4MID, at 3519 E. Crystal Lake Ave., Orlando, FL 32806.

High Plateau Roadmap

A useful addition to any Amateur's bookshelf, but especially that of the avid VHF/UHFer is the *VHF/UHF Manual* by Dain Evans, G3RPE, and George Jessop, G6JP. Additionally, with the advent of amateur satellites using 70 cm, 23 cm and above, many who are now unfamiliar with the techniques and practices required for successful operation in these higher domains may find this manual invaluable. This RSGB (Radio Society of Great Britain) publication is available in the U.S. through ARRL and elsewhere through normal distributors.

ORBIT Program Follow-Up

AMSAT President Tom Clark, W3IWI, says the response to his recent article, "BASIC Orbits" in the Mar./Apr. 81 *ORBIT* has been very positive. Readers have asked a few questions which Tom would like to answer through *ASR*.

First, there is one minor glitch that Tom would like to correct. Specifically, on page 29, you should insert a new instruction line that reads: "165 RESTORE 280." Without this line the program will experience an unintended halt. With the "fix" the entire program runs well.

As a point of information, Tom has provided the following data which is called for by his program in the initialization sequence.

For AO-7, from *NASA Bulletin* #428 and for AO-8 from *NASA Bulletin* #554, the following values should be used:

Parameter	AO-7 Value	AO-8 Value	Units
Epoch	1981	1981	—
Day	141.5482244	143.50930907	—
Orbit #	29802	16390	—
Mean Anomaly	79.8683	108.4353	degrees
Mean Motion	12.53356922	13.96252465	orbits/day
Inclination	101.4124	98.8220	degrees
Eccentricity	0.0011158	0.0004938	—
Arguement of Perigee	280.1149	251.6184	degrees
Right Ascension of Ascending Node (R.A.A.N.)	160.2650	180.4243	degrees

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